IN THE CLAIMS

What is claimed is:

1. A drug delivery coating, comprising:
a layer comprising one or more co-polymers of ethylene comprising carboxylic acid containing unsaturated monomers; and
a drug at least one of being contained within and being attached to the layer.

2. The drug delivery coating of claim 1 wherein the coating includes a matrix attached to the layer, the matrix containing the drug.

3. The drug delivery coating of claim 1 further comprising a matrix layer containing the drug and wherein the coating is a primer holding the matrix layer to a support structure.

4. The drug delivery coating of claim 1 wherein the unsaturated, carboxylic acid monomer concentration is at least about 5% by weight of the matrix.

5. The drug delivery coating of claim 1 wherein the unsaturated carboxylic acid monomer concentration is not more than about 50% by weight of the matrix.

6. The drug delivery coating of claim 1 wherein the co-polymers are neutralized in a volatile or non-volatile base and are dispersed in water and co-solvents.

7. The drug delivery coating of claim 1 wherein the co-polymers are soluble in ternary blends comprising toluene.

8. The drug delivery coating of claim 7 wherein the ternary blend further comprises a chlorinated solvent and a lower alcohol.

9. The drug delivery coating of claim 1 wherein the drug is incorporated in the coating and is elutable from the coating.

10. The drug delivery coating of claim 1 wherein the drug is incorporated in a well overlayed by the matrix.

11. The drug delivery coating of claim 10 wherein the well comprises a biodegradable polymer or a nonbiodegradable polymer.

12. The drug delivery coating of claim 1 wherein the co-polymer is soluble in a ternary blend comprising toluene.

13. The drug delivery coating of claim 12 wherein the ternary blend further comprises a chlorinated solvent.

14. The drug delivery coating of claim 13 wherein the ternary blend further comprises a lower alcohol.

15. The drug delivery coating of claim 1 wherein the co-polymer is ethylene acrylic acid.

16. A coated stent comprising:

a tubular main body; and

a coating adhered to the tubular main body, the coating comprising one or more co-polymers of ethylene with carboxylic acid.

17. The stent of claim 16 wherein the tubular main body is metal.

18. The stent of claim 17 wherein the metal is selected from a group comprising stainless steel, nickel, gold, chrome, nickel titanium allow, platinum, and other metals.

19. The stent of claim 18 wherein the tubular main body is made of a material selected from a group consisting of silicone, polyethylene, other polyolefins, polyesters, other plastics, glass, polyurethane, acetal, polyamide, and polyvinyl chloride.

20. The stent of claim 16 wherein the carboxylic acid in the coating comprises unsaturated monomers.

21. The stent of claim 20 wherein the unsaturated monomer concentration is at least about 5% by weight of the coating.

22. The stent of claim 16 wherein the co-polymers are soluble in ternary blends comprising toluene.

23. The stent of claim 22 wherein the ternary blends further comprise a chlorinated solvent and a lower alcohol.

24. The stent of claim 16 and further comprising a drug wherein the drug is incorporated in the coating and is elutable from the coating.

25. The stent of claim 24 wherein the drug is selected form a group consisting of antiplatelets, anticoagulants, antifibrins, antithrombins, anti-inflammatories and antiproliferatives.

26. The stent of claim 16 and further comprising a drug reservoir wherein the coating overlays the drug reservoir and the tubular main body supports the drug reservoir.

27. The stent of claim 16 wherein the coating is a diffusion limiting barrier.

28. The stent of claim 26 wherein the drug reservoir comprises a drug and a biodegradable material.

29. The stent of claim 24 and further comprising a primer.

30. A method of improving manufacturability of a drug delivery system used with a medical device, comprising:

providing a medical device with a main body;

providing a coating comprising cross-linkable co-polymers of ethylene with carboxylic acid; and

applying the coating to the main body of the medical device.

31. The method of claim 30 and further comprising applying a biodegradable coating containing at least one drug to the main body prior to applying the coating comprising cross-linkable co-polymers of ethylene with carboxylic acid and hydrogen bonding.

32. The method of claim 30 and further comprising applying a biodegradable coating or a non-biodegradable coating containing at least one drug over the coating comprising cross-linkable co-polymers of ethylene with carboxylic acid.

33. The method of claim 32 and further comprising applying the coating comprising cross-linkable co-polymers of ethylene with carboxylic acid over the biodegradable coating.

34. A drug delivery system, comprising:

a tubular main body;

a biodegradable coating that overlays the tubular main body;

one or more drugs that are incorporated in the biodegradable coating; and

a coating comprising one or more co-polymers of ethylene with a carboxylic acid moiety that overlays the biodegradable coating.

35. The drug delivery system of claim 34 wherein the carboxylic acid moiety comprises one or more of acrylic acid, methacrylic acid, maleic acid, itaconic acid and combinations and esters of these monomers.

36. The drug delivery system of claim 34 and further comprising a primer.